Trend Study 30-62-03

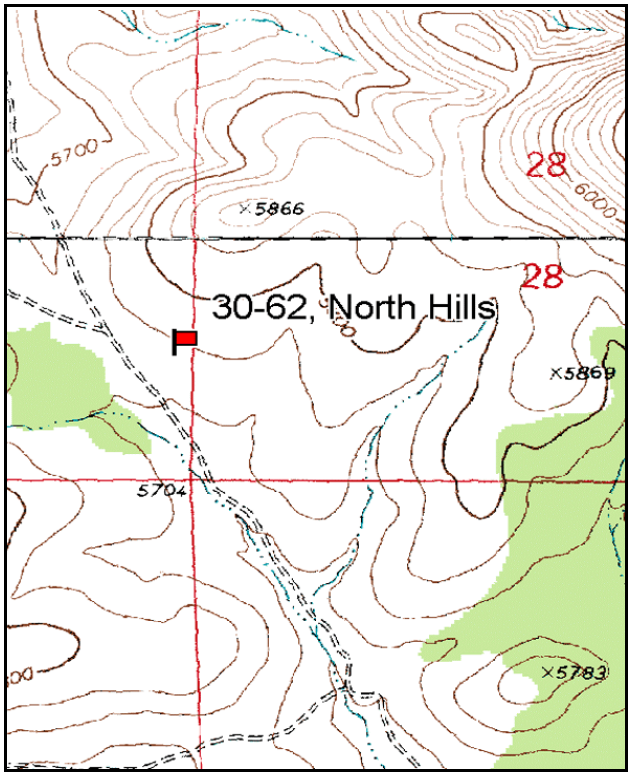
Study site name: North Hills . Vegetation type: Cliffrose-sagebrush .

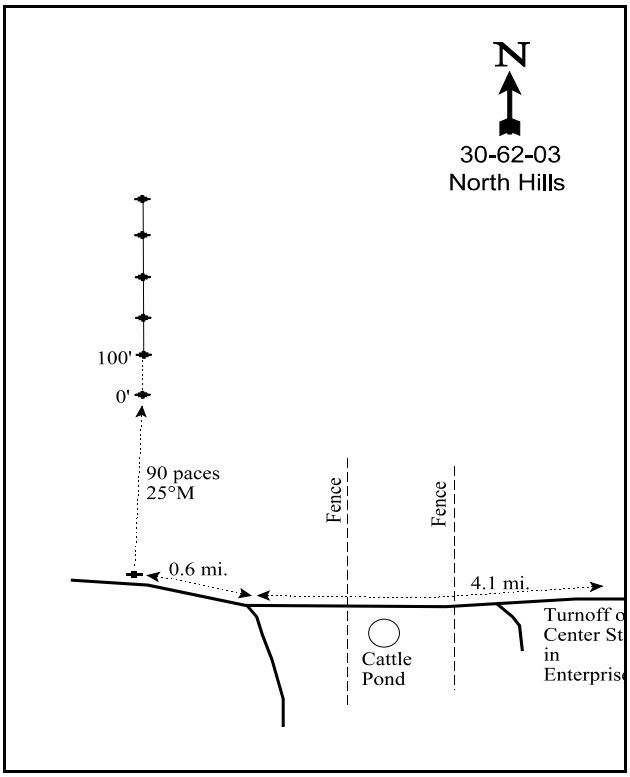
Compass bearing: frequency baseline 0 degrees magnetic.

Frequency belt placement: line 1 (11ft), line 2 (34ft), line 3 (59ft), line 4 (71ft), line 5 (95ft).

LOCATION DESCRIPTION

Starting from the town of Enterprise, turn north on Center Street and travel 0.25 miles. Turn left (west) on Old Modena Rd. and travel 4.1 miles passing study 30-52 and a couple of fences to a fork on the left. Continue straight on the road for another 0.6 miles to the witness post on the right side of the road. The 0-foot stake is 90 paces at 25 degrees magnetic. The 0-foot stake is marked by browse tag # 434. The study is marked by green steel "T" fence posts approximately 12 to 14 inches in height.





Map Name: Hebron

Diagrammatic Sketch

Township 36S , Range 17W , Section 28

GPS: NAD 27, UTM 12S 4163561 N, 255357 E

DISCUSSION

North Hills - Trend Study No. 30-62

This is a new trend study established in 2003 to replace the Northwest of Enterprise study (30-52). It is located about 1.5 miles northwest of trend study 30-52 and about 5 miles northwest of the town of Enterprise. The study samples a sagebrush/cliffrose winter range with an elevation of about 5,800 feet. Aspect is southwest and slope is 11%. Pellet group transect data estimated 25 deer days use/acre (63 ddu/ha). Most of the pellet groups encountered appeared to be from winter use.

Soil is moderately shallow with effective rooting depth averaging just over 13 inches. Deeper soil depth measurements were limited by rock and a calcium carbonate layer which started at about 9 inches in depth. This layer does not appear to be a barrier to roots however. Rock and pavement are common on the surface providing 32% cover. Soil temperature is relatively high at 71.4°F at 14 inches in depth. Soil texture is a clay loam and reactivity is neutral (pH of 7.1). There is little unprotected bare ground exposed and erosion is not a problem on this site. The soil erosion condition class was determined as stable in 2003.

The site supports a moderate stand of mountain big sagebrush with a few scattered tall cliffrose. Sagebrush has an estimated density of 3,380 plants/acre. The population is overly mature but most plants display normal vigor. They are producing abundant seed heads and have good annual leader growth. However, many plants have partial crown death and nearly half of the population was classified as decadent (46%). About 42% of the decadent sagebrush sampled were rated as dying, meaning >50% of the crown was dead. Other decadent plants displayed normal vigor. Seedling and young recruitment are poor but should improve with a return to normal precipitation patterns.

Cliffrose numbers only about 80 plants/acre. These are large tree-like plants averaging nearly 5 feet in height. Use is heavy on available plants, vigor is normal and annual leaders are abundant. Many plants are producing plentiful flowers. The site also supports a very small number of heavily hedged bitterbrush. Other shrubs on the site include broom snakeweed, cactus, and yucca.

The herbaceous understory is poor. Their were six species of perennial and two species of annual grasses sampled on the site. Total production is poor however, with total grass cover at only about 7%. Annual cheatgrass provides 65% of that cover. The most common perennial grasses include galleta and bottlebrush squirreltail. Several forbs were found on the site but most are rare in their occurrence. Total forb cover totaled less than 1%.

2003 APPARENT TREND ASSESSMENT

Soil conditions on the site are stable with respect to erosion. Protective ground cover, in the form of vegetation and litter, are marginal. However, due to the abundance of rock and pavement cover there is little exposed bare ground and erosion is not a problem. The sagebrush stand is showing some signs of drought stress but overall, the population is healthy and mostly lightly used. Seedling and young recruitment is currently poor but should improve with a return to more normal precipitation patterns. Cliffrose appears stable as most mature plants have grown partly out of reach to browsing. The herbaceous understory is poor with respect to perennial species. Annual cheatgrass provides 65% of the grass cover. Several perennial grasses are present but not abundant. Forbs are lacking.

HERBACEOUS TRENDS --
Management unit 30 , Study no: 62

Type	Species	Nested Frequency '03	Average Cover % '03
G	Bromus japonicus (a)	1	.00
G	Bromus tectorum (a)	174	4.39
G	Hilaria jamesii	81	1.36
G	Oryzopsis hymenoides	11	.19
G	Poa fendleriana	5	.04
G	Poa secunda	14	.11
G	Sitanion hystrix	49	.29
G	Vulpia octoflora (a)	86	.32
Total for Annual Grasses		261	4.72
Total for Perennial Grasses		160	2.01
Total for Grasses		421	6.73
F	Calochortus nuttallii	12	.02
F	Compositae	5	.21
F	Draba spp. (a)	5	.01
F	Gilia spp. (a)	25	.13
F	Lupinus argenteus	3	.01
F	Microsteris gracilis (a)	2	.01
F	Navarretia intertexta (a)	32	.19
F	Phlox longifolia	2	.00
F	Sphaeralcea grossulariaefolia	4	.04
Total for Annual Forbs		64	0.35
Total for Perennial Forbs		26	0.29
Total for Forbs		90	0.64

Values with different subscript letters are significantly different at alpha = 0.10

BROWSE TRENDS --
Management unit 30 , Study no: 62

Type	Species	Strip Frequency '03	Average Cover % '03
B	Artemisia tridentata vaseyana	83	13.61
B	Cowania mexicana stansburiana	4	.30
B	Coryphantha vivipara	1	-
B	Gutierrezia sarothrae	37	1.56
B	Purshia tridentata	1	.63
Total for Browse		126	16.11

CANOPY COVER, LINE INTERCEPT --
Management unit 30 , Study no: 62

Species	Percent Cover '03
Artemisia tridentata vaseyana	16.11
Cowania mexicana stansburiana	.58
Gutierrezia sarothrae	1.56
Purshia tridentata	.33

KEY BROWSE ANNUAL LEADER GROWTH --
Management unit 30 , Study no: 62

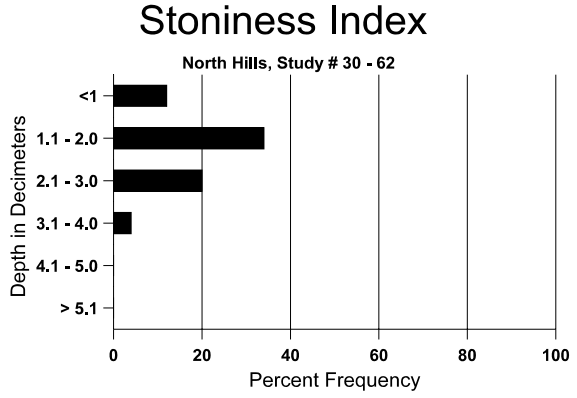
Species	Average leader growth (in) '03
Artemisia tridentata vaseyana	4.2
Cowania mexicana stansburiana	1.2

BASIC COVER --
Management unit 30 , Study no: 62

Cover Type	Average Cover % '03
Vegetation	28.15
Rock	19.44
Pavement	12.29
Litter	36.87
Cryptogams	.07
Bare Ground	11.86

SOIL ANALYSIS DATA --
Management unit 30, Study no: 62, Study Name: North Hills

Effective rooting depth (in)	Temp °F (depth)	pH	%sand	%silt	%clay	%0M	PPM P	PPM K	ds/m
13.2	71.4 (14.0)	7.1	34.6	36.7	28.7	1.2	5.1	422.4	0.4



PELLET GROUP DATA --
Management unit 30 , Study no: 62

Type	Quadrat Frequency '03
Rabbit	31
Deer	19

Days use per acre (ha) '03
-
25 (63)

BROWSE CHARACTERISTICS --
Management unit 30 , Study no: 62

		Age class distribution (plants per acre)					Utilization				
Year	Plants per Acre (excluding seedlings)	Seedling	Young	Mature	Decadent	Dead	% moderate	% heavy	% decadent	% poor vigor	Average Height Crown (in)
Artemisia tridentata vaseyana											
03	**3380**	20	40	1780	1560	1240	22	8	46	20	23/31
Chrysothamnus parryi											
03	**0**	-	-	-	-	-	0	0	-	0	6/15
Cowania mexicana stansburiana											
03	**80**	20	20	60	-	20	25	75	-	0	57/50
Coryphantha vivipara											
03	**20**	-	-	20	-	-	0	0	-	0	-/-
Gutierrezia sarothrae											
03	**2480**	40	40	2320	120	580	0	0	5	.80	8/10
Purshia tridentata											
03	**20**	-	-	-	20	-	0	100	100	100	10/21
Yucca spp.											
03	**0**	-	-	-	-	-	0	0	-	0	28/35